

REMARKS

The Office Action dated October 5, 2007 has been received and carefully considered. The above amendments and the following remarks are being submitted as a full and complete response to the Office Action.

Claims 1 to 11 were rejected under 35 U.S.C. § 101 as allegedly reciting non-statutory subject matter.

Claim 1 has been amended, initially, to clarify that the claimed first and second circuits have ends, which are adapted to be connected to the controlled body. That is, as currently set forth, the claims do not require that a human body necessarily be present and connected to the apparatus.

Even so, it is respectfully submitted that the claims are not directed to, nor claim, a human body. Rather, the claims are directed to an apparatus that, under operation, is connected to a patient whose respiration is controlled by the apparatus. There is nothing unstatutory or unconventional in claiming such a relationship between an apparatus and a human subject.

Indeed, several patents in this and other arts, and in at least one case in a patent having claims allowed by this Examiner, have permitted the claiming of such a relationship, and include claim limitations along the lines of "connected to a human body." See, e.g., U.S. Patent No. 6,668,828 ("a lumen fluidically connected to the patient's nares").

The Examiner is respectfully requested to reconsider and withdraw this rejection in light of the amendments.

Claims 1 to 8 were rejected under 35 U.S.C. § 103 as being unpatentable over Robinson et al. in view of Bo (EP 1 177 808).

The claims have been amended to specify that the apparatus includes at least four independently disposed and independently operable valves. Specifically, the valves are made up of two respective valves (first check valve 144 and first solenoid-operated valve 142) disposed in the first circuit, and two additional respective valves (second check valve 150 and second solenoid-operated valve 152) disposed in the second circuit.

In contradistinction to this clear limitation of the claims, Robinson et al. does not disclose or suggest any check valves whatsoever. Moreover, in the first embodiment, Robinson et al. discloses only a single active valve 36, which is driven dynamically to control the flow of respiratory gases through a conduit 32 to and from a patient 30. The valve 36 is disclosed to be a butterfly valve. (See, column 4, lines 7 to 45.)

In another embodiment, the use of two dynamically driven valves 250, 252 is disclosed, associated with inspiratory and expiratory controls, respectively. (See, column 8, lines 4-14.) Moreover, alternative embodiments are discussed, in which these control valves are disclosed to be iris valves, as shown, for example, in FIGS. 8-C and 8-D.

Thus, at a maximum, Robinson discloses the use of two actively controlled valves, neither of which is a check valve.

A "check valve" is a well-known, indeed extraordinarily well-known, type of valve, which enables flow to pass through the valve in one direction only. Such "check valves" are also known

generically as one-way valves, or namely, valves permitting liquids or gases to flow in one direction only. (See, e.g., the definition of class 604, subclass 99.03, "One-way valve: Subject matter wherein the valve means allows flow in one direction and prevents flow in the reverse direction.")

The valves disclosed in Robinson et al. are not check valves. On the contrary, both the butterfly valve 36 shown in 4-B and the iris valves 250, 252 shown in FIGS. 8-C and 8-D are valves that, when open, permit fluid to flow in both directions and, if fully closed, would prevent the fluid from flowing in both directions. In summary, therefore, neither the claimed number of independently operable valves (i.e., two per each of the first and second circuits), nor the expressly claimed types of valves (solenoid-operated and check valves), are disclosed or suggested by Robinson et al.

As for EP 1 177 808, although this reference discloses a solenoid-operated pressure relief valve for regulating positive and expiratory pressure within a patient breathing circuit, the combination of teachings, particularly with Robinson et al. acting as the base reference, cannot suggest the claimed invention. In setting forth the rejection, the Examiner indicates and applies EP 1 177 808 on page 4 of the office action as a secondary reference, stating that "it would have been obvious to one of ordinary skill in the art to modify the valve of Robinson to employ any well known solenoid-operated valve because such valves are known in the respiratory art as taught by Bo."

However, even assuming that a solenoid-operated pressure relief valve might somehow be used in the apparatus of Robinson et al., the only reasonable combination would be to replace either the butterfly valve or the iris valves disclosed in Robinson et al. by the solenoid-operated valve of EP 1 177 808, which would then be expected merely to operate in the same manner as the original valves disclosed in Robinson et al. Nothing in Robinson et al. discloses or suggests a structure involving a combination of both valves disclosed in these respective references.

Stated otherwise, even if combined, the cited references, at best, would only suggest inspiratory and expiratory circuits, each having a solenoid-operated valve therein in place of the valves 250, 252 already disclosed in Robinson et al., FIG. 8A. Hence, neither the claimed number of independently operable valves (i.e., two per each of the first and second circuits), nor check valves, is suggested by the combined teachings.

Finally, it must be emphasized that neither of these cited references even remotely suggests the controller set forth in pending claim 1 (i.e., the central processor or controller 160, which is now being claimed expressly as a control means using statutory "means-plus-function" terminology). Specifically, amended claim 1 recites a control means for controlling the first solenoid-operated valve and the second solenoid-operated valve at a predetermined time in a respiratory cycle thereby to disconnect the respiratory system of the controlled body from the outside, and for controlling the first solenoid-operated valve and the

second solenoid-operated valve after elapse of a predetermined period from the predetermined time thereby to connect the respiratory system of the controlled body to the outside. Thus, even though EP 1 177 808 discloses solenoid-operated valves, their purpose and function, and the manner in which the valves are operated, are unlike that required by the control means of the claimed invention.

Withdrawal of the rejections with allowance of pending claims 1 to 8 is respectfully requested.

Claims 9 to 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Robinson et al. (U.S. Patent No. 6,631,716) in view of Takabayashi et al. (U.S. Patent No. 6,220,245).

Initially, it is noted that the Examiner did not include Takabayashi et al. on the attached PTO-892 form, nor was this reference cited by the present applicant. The applicant has, however, downloaded and considered this reference.

Secondly, since claims 9 to 11 are dependent claims dependent on claim 1, it is assumed that the Examiner probably intended for the European citation (EP 1 177 808) also to be included in the statement of rejection. In other words, it is assumed that the Examiner intended to say, "Claims 9 to 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Robinson et al. (U.S. Patent No. 6,631,716) and Bo (EP 1 177 808) as applied above, further in view of Takabayashi et al. (U.S. Patent No. 6,220,245)." If need be, the Examiner is requested to revise the statement of rejection and to include a full citation

of Takabayashi et al. on the PTO-892 form with the next office action.

With respect to Takabayashi et al., the Examiner contends that the reference teaches a filter and a dehumidifying chamber. Nevertheless, Takabayashi et al. does not make up for the deficiencies of Robinson et al. and EP 1 177 808, which have been discussed in detail above. Accordingly, claims 9 to 11 are allowable, as dependent claims, at least for the same reasons discussed above with respect to the amended independent claim.

For the foregoing reasons, it is respectfully submitted that the claimed invention is not anticipated and would not have been obvious to a person skilled in the art at the time the present invention was made. Reconsideration and withdrawal of the rejections, and allowance of amended claims 1 to 11, is respectfully requested.

No fees are due at this time. Notwithstanding, any fees, or deficiencies in fees, that may be considered necessary in connection with this or any accompanying communication may be charged to the attorney's deposit account no. 07-1219.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Paul A. Guss', with a long horizontal line extending to the right.

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